

# Effect of Treadmill Desks on Physician Efficiency

Authors: George Schatz, MD; Mari Ricker, MD

## Introduction

The verdict is in: sitting is the new smoking. Sedentary Behavior (<1.0-1.5 METs) has been correlated with Premature mortality, Cardiovascular disease, Cancer, Diabetes, Obesity and Depression(1,4). Replacing 1 hour of sedentary time with light to moderate (2-4METs) or vigorous (>4METs) activity is associated with decreases in Mortality of 18 and 42% respectively(2). Treadmill desks (the combination of a standing desk and a treadmill that allow employees to work while walking at low speed) have been shown in the literature to be a practical way to increase office workers' and Physicians' daily physical activity(5,6). While productivity of other office workers has been evaluated, the potential effect of Treadmill Desks on Physician Productivity has yet to be evaluated at the time of publication(7,8). This study serves as feasibility study to determine Resident usage for Treadmill desks when made available in the setting of a Family Medicine Clinic in a University Medical System.

## Methods

After IRB approval was obtained, subjects were recruited by email and in person, and completed consent forms as well as a Pre/Post questionnaire. 2 treadmill desks were made available at the Alvernon Clinic for use 24 hours a day 7 days a week. Usage was tracked through the use of sign in/out sheets which detailed the number of encounters/notes performed. At the end of the study both residents who had enrolled but never used the treadmills, and those who had enrolled and used the treadmill desks were solicited for narrative comments.

## Results

Out of a total available 24 residents, 10(41%) enrolled in the study with 3 (12%) residents actually using the treadmill desks over the 3 month study period. The main factors that users enumerated for why they were motivated to use the treadmill desks were health/psychological benefits and the immediate availability of the Treadmill desks, whereas the main factors by non users as to why they did not use the treadmill desks were location and a desire to go home immediately after a long day of work, rather than staying in the building to finish all charting.



**Figure 1. One of two Lifespan DR7000 Treadmill Desks available for use at the Alvernon Clinic**

Table 1. Condensed Narrative Comments by Treadmill Users on why they used the treadmill desks:

1. Health Benefits: "better than sitting" "I Hate Sitting"
2. Overall, fun!
3. Improved Focus
4. Improved Efficiency

Table 2. Condensed Narrative comments by Non-users on why they did not use the treadmill desks:

1. Prefer to go home/not stay at work after a long day
2. Location of treadmill desks("out of sight out of mind")
3. Lack of Provisions available at home(food, drink, pajamas, etc.)

## Conclusions

Out of a total of 24 residents initially available to participate in the study, only 3 made use of the treadmill desks. The number one factor that led to Treadmill desk usage was routine, in that those who typically charted at home, were no more inclined to stay in clinic to finish their charting on a treadmill desk, whereas those who already stay in the same location to finish their charting were much more inclined to work on the treadmill desks. This suggests that future studies looking to analyze the effect of treadmill desks in a Primary Care Residency Setting would do best to improve subject utilization by ensuring that the treadmill desks are available in a location that physicians already use to complete their charting/work such as a highly trafficked lounge or computer room.

## References

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